MARINE REVIEW.

VOL. IX. CLEVELAND, O., MAY 3, 1894. No. 18.

Missabe Mines of Little Help in the Freight Market.

The Missabe mines aside from the Minnesota company's properties, represented by Pickands, Mather & Co., and the Oliver and Franklin, represented by M. A. Hanna & Co., of Cleveland, both of whom have provided for a liberal output and have engaged their own tonnage and some from outsiders on 80-cent contracts, do not offer very much encouragement in the matter of freights. The Minnesota company has 150,000 tons in stock at its Canton mine and is said to be negotiating for the purchase of the fee of the Ohio. Its stock pile at the Chandler, Vermillion range, is reported at 278,000 tons. But the Biwabik and Iron Mountain, from both of which very heavy shipments were expected this year, will fall considerably short of the estimates. The Mountain Iron, leading syndicate property—notwithstanding its advantages over other Missabe mines having royalties to meet, still lacks assurance of a large output, on account of the limited sales as yet made, and it is claimed that the Biwabik company, which has been strengthened in a financial way through money advances made by A. M. Byers, a large Pennsylvania iron manufacturer, and John Tod, of Tod, Stambaugh & Co., Cleveland, can get out little more than 100,000 tons, on account of the physical condition of the mine. Under improvement in the market, however, the big Missabe mines would undoubtedly be found equal to any situation demanding increased shipments, as it is a fact that among producers and furnace men, who rate the ore commercially at 25 cents below the standard Bessemers, the principal argument against it is that there is too much of it as against the proportion that can be used according to the present practice among the furnaces.

The Franklin mine, controlled by Mr. Frank Rockefeller of Cleveland, and for which M. A. Hanna & Co. are sales agents, has probably secured a stronger foothold in the market than any of the other mines of the new range. The ore is somewhat coarser than other Missabes and is of high grade. Sales of it are understood to amount to more than 150,000 tons. These sales are of a genuine kind, as the ore is not to be used by furnace owners interested in the mines, which is the case with two or three other properties on the range that are to make large shipments.

State Tax Laws on Shipping.

Editors MARINE REVIEW:—In view of the evidences of awakened interest in the merchant marine and ocean carrying trade of the United States, which you have doubtless observed, and of the possibility of federal legislation upon the subject, I respectfully beg leave to call your notice to the effect of state tax laws on shipping. The adventages to a state or a city of a direct share in the foreign carrying trade are obvious. It is to be presumed that the trade will establish itself at points where the resistance of state tax laws is least. New York state prepared in 1881 to make the most of any increase in our foreign carrying trade, should it come, by passing the following law, extended for thirty years on May 17, 1892.

"The people of the state of New York, represented in senate and assembly, do enact as follows:

"Section 1. Section 1 of chapter 433 of the laws of 1881 is hereby amended so as to read as follows:

"Section 1. All vessels registered at any port in this state and owned by any American citizen, or association, or by any corporation, incorporated under the laws of the state of New York, engaged in ocean commerce between any port in the United States and any foreign port, are exempted from all taxation in this state, for state and local purposes; and all such corporations, all of whose vessels are employed between foreign ports and ports in the United States, are exempted from all taxation in this state for state and local purposes upon their capital stock, franchises and earnings for the period of thirty years."

I hand this to you as the editor of a newspaper especially concerned in all that relates to shipping, with the thought that it may be worth your consideration whether agitation to induce the people of other states to bring their laws into conformity with the liberal laws of New York state might not be advisable, and if effectual, might not be to the advantage of the shipping interests. I am of the opinion that agitation to secure state legislation on this subject will be much more speedily effective than an appeal to congress.

EUGENE CHAMBERLAIN,
Commissioner.

Treasury Department, Bureau of Navigation,
WASHINGTON, D. C., April 28, 1894.

The American Lloyd's Register.

Editor MARINE REVIEW.—I have seen a copy of the "American Lloyd's Register—Lakes," and have wondered where the publishers obtained authority for getting out such a work, especially that part of it in which they place a value on the property of vessel owners. I have not heard of a single underwriter, ship owner or ship builder requesting the association that publishes this book to undertake a general rating and valuation of lake vessels. The ratings and valuations are, I feel sure, quite unauthorized and irresponsible. I am unable to find anything in the book to indicate why they were made. The inadequacy of the Inland Lloyds classification to indicate the actual general condition of vessels has been recognized for years, but has been tolerated by the underwriters merely as a rough and ready business expedient, and as such its continuance can be understood, if not approved. But why should strangers, who have no business interests themselves to serve, jump in without any invitation from anybody, and do precisely the same thing? The value of such a system of rating, as distinguished from legitimate classification based on actual surveys, is shown (and without any loss of time) by the steamer W. H. Barnum, which was duly rated in this new register, although the vessel's actual condition was perfectly well known and her insurance was only effected to cover one voyage and that under special conditions.

Then to publish valuations of vessels is something wholly beyond the province of a classification society. That it was of questionable propriety has always been recognized by the Inland Lloyds, and it was always explained in their register that such valuations were only for their private information and "were not to be promulgated to the public." This part of the work is not even well done of its kind. On a cursory examination I notice steel vessels valued at $200,000 and over that can be duplicated today for $150,000—vessels two or three years old, at that. Now I think it is time that vessel owners should give some attention to publications of this kind, and look after their interests where values and ratings are assigned to their vessels without authority.

Chicago, Ill., April 30, 1893. A VESSEL OWNER.

Depth of Water at Lake Michigan Harbors.

We have secured from Major James F. Gregory, U. S. A., engineer officer in charge of river and harbor improvements on the west shore of Lake Michigan, the following statement of depths of water at the several ports in that section. The information will prove valuable to vessel owners and coal shippers:

Waukegan: April 13, 1894—The entrance channel with a least width of 80 feet has a depth of $10\frac{4}{10}$ feet. The basin has a depth of from 9 to 11 feet.

Kenosha: April 5, 1894—A narrow and tortuous channel about 13 feet deep. A bar at the entrance with a minimum depth of 12½ feet extends from the south pier to within about 60 feet of the north pier.

Racine: Dredging is to be begun April 30, to make a channel 60 feet wide and 15½ feet deep. March 29-30, 1894—A narrow and tortuous channel about 13 feet deep. A bar at the entrance with a minimum depth of 12 feet extends from the south pier to about 80 feet of the north pier.

Milwaukee: March 16, 1894—About 16½ feet.

Port Washington: March 26, 1894—About 10½ feet.

Sheboygan: March 28, 1894—About $15\frac{6}{10}$ feet.

Manitowoc: April 1, 1894—About 14 feet.

Two Rivers: April 5, 1894—About $10\frac{6}{10}$ feet.

Kewaunee: April 12, 1894—About $13\frac{6}{10}$ feet.

Ahnapee: April 16, 1894—About 10½ feet.

Sturgeon Bay harbor: April 13, 1894—About 13 feet.

Sturgeon Bay canal: April 16, 1894—About 13 feet.

Green Bay: January, 1894—About 14 feet.

Oconto: April 25, 1894—About 6½ feet.

Menominee river and harbor: January, 1894—About 16 feet.

Cedar river: April 20, 1894—About 13 feet.

Shipments of flour across Lake Michigan to Benton Harbor from points in Michigan, Wisconsin and Minnesota have been made for some time past, and there is nothing new about the route. The flour is taken at Benton Harbor by the Big Four Railway and much of it is transferred to the Chesapeake & Ohio Railway, another Vanderbilt line, over which it is carried to Newport News, Va., for export, the C. & O. having a line of six big freight steamers running between Newport News and Liverpool.

E. F. THORP,
Prest. Buffalo Lodge.

T. C. HERRICK,
Prest. Toledo Lodge.

GEO. A. SHAW,
Prest. Marine City Lodge.

GEO. MCCULLAGH,
1st Vice-Prest.

J. W. COCHRANE,
2d Vice-Prest.

W. A. COLLIER,
Financial Sec'y.

ALEX. CLARK,
Prest.

LYMAN HUNT,
Treas.

W. E. RICE,
Chaplain.

C. E. BENHAM,
Marshall.

GEO. TEBO,
Warden.

C. H. WEEKS,
Sentinel.

SUPPLEMENT TO MARINE REVIEW, ILLUSTRATED, CLEVELAND, O., MAY 3, 1894.

GRAND LODGE—SHIPMASTERS' ASSOCIATION.

Vessels to which Belleville Boilers have been Applied.

Editor MARINE REVIEW.—In your issues of April 5 and 12 you print from the "Royal United Service Institution" what purports to be a report of trials of the Belleville boilers on the Ortegal of the Messageries Maritime Company's fleet. The whole tenor of the article is adverse to the boiler. The following incomplete list of vessels equipped with this boiler—most of them built since the Ortegal—shows conclusively that the unfavorable impression which that report would give is not well founded. This list takes no account of ships having the Belleville as an auxiliary boiler. (No other water tube boiler has, up to this time, been used on vessels of any considerable size in any other way than as auxiliary.) Neither does the list include any of the tugs, launches and small craft, (and they are numbered by hundreds) having boilers of 25 H. P. to 100 H. P., and using salt water feed only:

BELLEVILE BOILER APPLICATIONS TO MARINE SERVICE 1893—NAMES OF STEAMERS AND HORSE POWER.

FRENCH NAVAL MARINE.

Voltigeur	1,000
Milan	3,800
Hirondelle	2,100
Crocodile	450
Actif	400
Rigault De Genouilly	2,100
Alger	8,000
Latouche Treville	7,400
Chanzy	7,400
Charner	7,400
Abervrac'h	170
Caudan	600
Leger	2,200
Levrier	2,200
Brennus	14,000
Trehouart	7,500
Bruix	8,800
Bugeaud	9,000
Descartes	8,500
Bouvet	14,000
Pothuan	10,000
Pascal	8,500
Large Cruiser*	18,750
Le Catinat*	9,000
Le Galilee*	6,600
Total H. P.	159,870

FRENCH MERCHANT MARINE.

Ortegal	1,800
Sindh	2,400
Australien	7,000
Polynesien	7,000
Armand Behic	7,000
Ville De La Ciotat	7,000
Ernest Simons	5,600
La Tamise	4,500
Total	42,300

RUSSIAN NAVAL MARINE.

Minnie	6,000
Groziastchy	2,000
Marevo	200
Strela	1,600
Gremyaschy	2,500
Otviagni	2,500
Standart*	15,000
Czarewna*	800
Total	30,600

ENGLISH NAVAL MARINE.

Sharpshooter	3,500
Powerful*	25,000
Terrible*	25,000
Total	53,500

U. S. MERCHANT MARINE.

North Land*	7,000
North West	7,000
Total	14,000

UNITED STATES YACHTS.

Shearwater	200
Coryell	50
Wild Duck	400
Sultana	450
Total	1,100
Grand Total	301,370

*Building.

A requirement of the French navy is that every boiler must be able to steam six weeks with only sea water feed. The existence of Belleville boilers to to the extent of 160,000 H. P. on twenty-five ships, an average of over 6,000 H. P., would seem to a casual observer to indicate that they could be fed with sea water without forming a deposit. In the Freneh merchant marine the Sindh, 2,400 H. P, in the China trade, and the four following vessels of 7,000 H. P. each, were built by the owners of the Ortegal. Surely no private company would deliberately equip a fleet of ships all larger than the largest vessel now in commission on the lakes with a boiler they knew all about, unless they knew it to be good and better than the regular type of marine boiler. Incidentally, the Ortegal is still running and with the original set of boilers, now ten years old.

Mr. Belleville neither sought nor encouraged the English engineers. They went on board ships fitted with his boilers, made many trips and saw the operation of the boiler, not under show conditions, but in ordinary every-day working service. The proverbial hostility between Englishmen and Frenchmen, the Briton's national pride and the extravagant claims of several English builders of water tube boilers were, all combined insufficient to prevent them from adopting the Belleville for the two most powerful warships ever constructed. The Sharpshooter is finished and the European edition of the New York Herald, issue of March 31, '94, says of her:

"The trials of the Belleville boilers on the Sharpshooter have been on the whole successful, although long deferred, owing to the weakness of the engines. It is understood that Messrs. Delaunay, Belleville & Co., refused to guarantee a certain horse power or speed in the Sharpshooter, unless new engines were also fitted to her."

In this country the yacht Wild Duck has been fed for nearly three weeks with sea water and when opened was found to be absolutely free from deposit. As regards repairs it may be said that on the Shearwater with one boiler running seven years, the Wild Duck with two boiless running five years and the Sultana with two boilers running three years, the latter in commission winter and summer, the cost altogether has not amounted to $25.

Cleveland, O., May 1, 1894. G. L. H. ARNOLD.

Iron Ore on Lake Erie Docks.

On Tuesday last, May 1, there was an aggregate of 2,558,370 gross tons of ore on all Lake Erie docks. In 1891 the amount on dock was greater than at present, but the stocks now are about half a million tons greater than on May 1 a year ago. It is certain, however, that as regards Bessemer ore especially, the proportion sold and still remaining on dock, is greater than it has been during two or three seasons past, and it is also well known that stocks at western furnaces (Chicago district) are not as large as they have been in previous seasons. At the close of navigation, Dec. 1, 1893, the stocks on dock amounted to 4,070,710 tons, and deducting from this 2,588,370 tons now on dock, we find that shipments to furnaces during the past winter amounted to 1,512,340 tons, which added to 3,358,148 tons, the amount shipped to furnaces during the season of navigation in 1893, gives 4,870,488 tons as the entire consumption of ore from Lake Erie ports during the year ending with May 1, 1894. The tables giving full detail of stocks and shipments to furnaces follow:

IRON ORE ON LAKE ERIE DOCKS.

Ports.	Opening of Navigation.			Close of Navigation.		
	May 1, 1894.	May 1, 1893.	May 1, 1892.	Dec. 1, 1893.	Dec. 1, 1892.	Dec. 1, 1891.
Toledo	44,500	11,863	62,960	92,911	71,409	122,515
Sandusky	65,772	74,875	85,500	78,439	87,500	122,000
Huron	56,791	40,000	5,000	89,000	45,000	14,910
Lorain	170,391	99,300	115,919	201,632	147,600	250,812
Cleveland	821,923	628,639	452,664	1,163,930	1,347,992	1,114,762
Fairport	311,494	287,727	255,422	578,033	610,609	597,617
Ashtabula	762,139	712,355	361,806	1,296,431	1,312,658	903,957
Conneaut	68,485	.....	.....	91,337	.....	.....
Erie	222,094	173,569	131,437	359,827	401,683	252,916
Buffalo	64,781	67,469	66,480	119,170	125,000	129,000
Total	2,588,370	2,095,797	1,537,188	4,070,710	4,149,451	3,508,480

The total amount of ore on dock at Lake Erie ports on May 1 for ten years past was as follows:

Year.	Gross Tons.	Year.	Gross Tons.
1885	556,657	1890	936,228
1886	373,321	1891	2,662,223
1887	149,304	1892	1,537,188
1888	703,720	1893	2,095,797
1889	588,753	1894	2,588,370

The following table shows the shipment from Lake Erie ports to furnaces, both direct from vessels during the navigation season and from docks during the winter, for six years past:

Year ending—	Gross Tons.	Year ending—	Gross Tons.
May 1, 1894	4,870,488	May 1, 1891	5,148,669
May 1, 1893	6,102,125	May 1, 1890	4,936,637
May 1, 1892	5,802,496	May 1, 1889	3,928,626

The winter shipments to furnaces during six years past were:

Winter of—	Gross Tons.	Winter of—	Gross Tons.
1893–94	1,512,340	1890–91	1,231,264
1892–93	2,053,654	1889–90	1,670,878
1891–92	1,971,301	1888–89	1,289,802

Stocks of Grain at Lake Ports.

The following table, prepared from reports of the Chicago board of trade, shows the stocks of wheat and corn in store at the principal points of accumulation on the lakes on April 28, 1894:

	Wheat, bu.	Corn, bu.
Chicago	20,238,000	5,044,000
Duluth	10,915,000	261,000
Milwaukee	929,000	3,000
Detroit	1,986,000	46,000
Toledo	2,923,000	355,000
Buffalo	1,990,000	1,232,000
Total	38,981,000	6,941,000

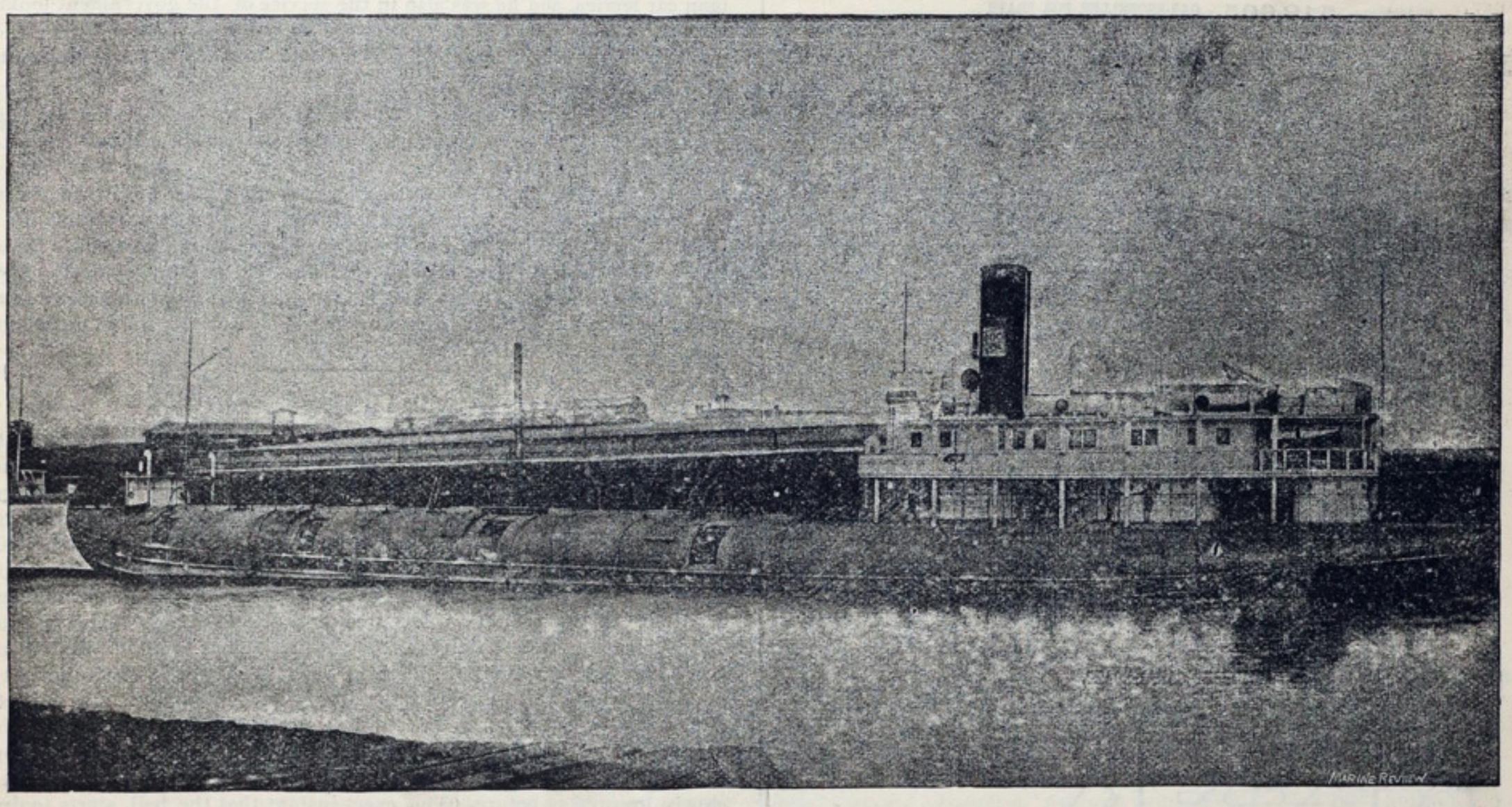
At the points named there is a net decrease for the week of 1,344,000 bushels of wheat and 456,000 bushels of corn.

WE ARE NOW IN POSITION TO FURNISH BROMIDE CRAYON PORTRAITS OF YOUR BOAT, 14 BY 22 INCHES, FOR $5 EACH. IT IS NECESSARY TO HAVE A PAINTING OR PHOTOGRAPH OF YOUR BOAT TO WORK FROM. IF YOU HAVE NONE, WE CAN HAVE ONE TAKEN WHEN YOU COME INTO CLEVELAND FOR $1 EXTRA. AT PRESENT WE CAN FURNISH SUCH BOATS AS THE W. H. GRATWICK, (STEEL), THE NORTH WEST, VIRGINIA, (NIGHT SCENE), THE CITY OF DETROIT, PONTIAC AND MANY OTHERS. WRITE US ABOUT IT. MARINE REVIEW, 516 PERRY-PAYNE BUILDING, CLEVELAND, O.

Labor Troubles Considered Favorable to Vessel Interests.

Although the big strike of soft coal miners has been followed by more labor troubles on the Missabe iron range, and there are indications of more men quitting work in other sections of the Lake Superior iron region, vessel owners are not disappointed on account of these disturbances, and were it not for the dangerous features of strikes, and the hardships suffered by the men, they would be willing that idleness should be quite general for several weeks to come. A slight increase in the number of grain cargoes offered at Chicago and Duluth constitutes the only change that has taken place in the lake freight market during the past week, and if the enforced idleness that has prevailed in most lines of traffic since navigation opened is to extend to vessels having contract ore to carry, on account of strikes in the ore mines, the season will be shortened to a degree that must result in better freights. The tendency is towards an entire absence of cargoes,and unlike the conditions during periods of depression in freights last season, it is not now a matter of low rates.

Thus it is confidently expected, especially as regards the ore trade, that when the labor troubles are over with, so much time will have been wasted that there will at least be a moderate margin of profit for the vessels in a business that will be crowded into six or six and one-half months instead of seven and a half to eight months. There is no doubt of a very heavy movement of Bessemer ore. Furnace men who did not buy early of Bessemers admit that they have made a mistake, to the extent that the choice ores are practically out of the market. There is fully 3,500,000 tons covered from Lake Superior, and conservative estimates on the entire amount of Bessemer to be produced range from 5,500,000 to 6,000,000 tons. The reports of ore on Lake Erie docks show, it is true, larger stocks than were carried over a year ago, but this ore is sold to a greater extent than it was during two or three seasons past, as much of it that is of the better quality was made part of the sales for this year's delivery; and furthermore, this ore was moving quite actively to furnaces when the strikes of coal and coke workers were inaugurated. That pig iron will be made in large quantities as soon as the banked furnaces can resume operations, there is no doubt, as there is practically no Bessemer pig to be had for present delivery. As regards the iron market, then, it is plain to be seen that there are indications of some encouragement for the vessel interests.



ONE OF THE "SOO" LINE WHALEBACK PACKAGE FREIGHT CARRIERS.

Some Late Appointments.

Detroit, Grand Haven & Milwaukee Railway Company, Grand Haven, Mich.: Steamers—City of Milwaukee, Capt. J. McLaughlin, Engineer Charles Barron; Wisconsin, Capt. Thomas Hannon, Engineer Alex. Curry.

Monroe, Boyce & Co., Grand Haven, Mich.: Steamers—Mary A. Boyce, Capt. William McGregor, Engineer C. Deremo; Mary A. McGregor, Capt. ——— ———, Engineer Case Ball.

Captains and engineers of the boats of the Crescent Transportation Company of Detroit are: Steamers—John M. Nicol, Capt. Albert Stewart, Engineer Geo. E. Tretheway; John V. Moran, Capt. Robt. Rhynas, Engineer Geo. F. Lynn; Wm. H. Stevens, Capt. Louis Elliott, Engineer John S. McSweeney; Eber Ward, Capt. Wm. McLean, Engineer Jas. E. Purvis; Jas. Fisk, Jr., Capt. M. G. McIntosh, Engineer Elmer Ticker; S. F. Hodge, Capt. Norman McGuire, Engineer John R. Judge.

Masters of boats owned by Capt. James Davidson of West Bay City are: Steamers—City of Glasgow, Capt. Hugh Stevenson; Monohansett, Capt. Geo. W. Pardee. Schooners—Paisley, Capt. Geo. W. Starkey; Dundee, Capt. Johnson; Aberdeen, Capt. C. Becker; Lizzie A. Law, Capt. Peter Overrood.

Mr. M. A. Bradley has made some appointments of captains and engineers for his boats, but from the number of blank spaces in the following list it will be seen that he is in no hurry in preparing to send out the big fleet which he controls: Alva, Capt. Joseph Holmes, Engineer H. C. Talbot; Geo.Stone, Capt.Mathew Mulholland,Engineer C.M.Williams; Maurice B. Grover, Capt. W. E. Morris, Engineer R. Hannah; Gladstone, Capt. J.H. Wysoon,Engineer John N.Kirby; Henry Chisholm,Capt.Paul Howell, Engineer P. H. Doyle; Pasadena, Capt. Lafayette Stough, Engineer A. J. Helbing; Superior, Capt. John Donohue, Engineer John O'Donnell; E. B. Hale, Capt. Thos. Delargie, Engineer———; J. S. Fay, Capt. Henry Brock, Engineer———; Sarah E. Sheldon, Capt. Harry Holmes, Engineer William Angel; R. P. Ranney, Capt.———, Engineer———; Fred Kelly, Capt. P. H. Smith, Engineer Osgood; City of Cleveland, Capt. Chas. Francke, Engineer William Sullivan; Hesper, Capt. Henry Peterson, Engineer J. H. Gilbo. Schooners—Adriatic, Capt.——; John Martin, Capt. Geo. Richards; D. P. Rhodes, Capt. Chas. Tift; A. Cobb, Capt. N. Gifford; Thos. Quayle, Capt.———; A. Bradley, Capt. Peter Peterson; Sandusky, Capt. E. P. Spear, Negaunee, Capt. L. C. Cole; S. P. Ely, Capt. A. B. Wilson; Southwest, Capt. R. C. Smith; S. H. Kimball, Capt. John Bridges.

Two Revenue Cutters.

It is about certain that an appropriation of $150,000 contained in the sundry civil bill, for the purpose of contracting to build two revenue cutters, will be carried with the bill which will probably be passed during the present month. The boats are to cost $175,000 each and this appropriation is to cover the first payment of $75,000 each. The plans are all prepared and there will be little delay in asking builders for prices as soon as the bill is passed. Some lake builder should get this job.

A firm of Toledo grain shippers is loading the steamers Bannockburn and Glegarry, and the schooners Winnipeg, Minnedosa and Queen of the Lakes, which will take about 300,000 bushels of corn to Kingston, to be loaded into barges and shipped to Montreal, thence to Europe. The fleet will return to Toledo for other cargoes just as soon as the trip can be made. About 3,000,000 bushels of corn will be shipped and later 5,000,000 bushels of wheat.

Patronize the through car service via the Nickel Plate road to Chicago, New York and Boston. Apl 30

Illustrated Patent Record.

SELECTED ABSTRACTS OF SPECIFICATIONS OF A MARINE NATURE—FROM LATEST PATENT OFFICE REPORTS.

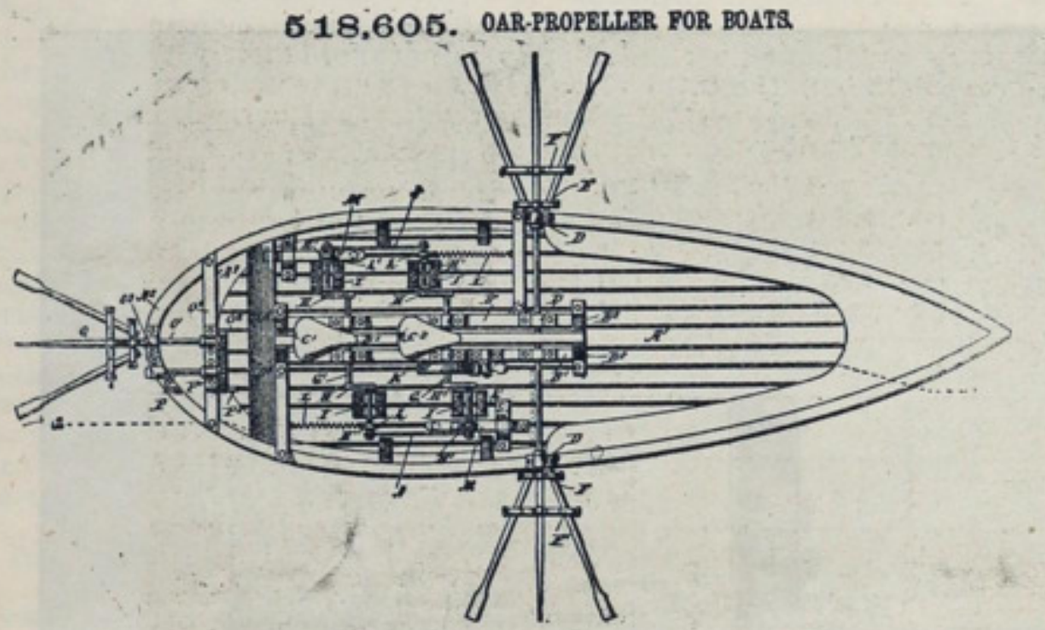
518,605. OAR PROPELLER FOR BOATS. Horace Huriburt, Leavenworth, Kan. Filed Sept. 3, 1892. Renewed March 19, 1894. Serial No. 504,277. (No model.)

Claim.—In a propelling mechanism for boats, the combination with the oar-wheels, and shaft, a counter-shaft geared to the oar wheel shaft, and having cranks and operating pedals, a retracting spring secured to the pedal upon one side and also to the framework, and a spring-actuated presser bar located beneath the companion pedal of the same shaft.

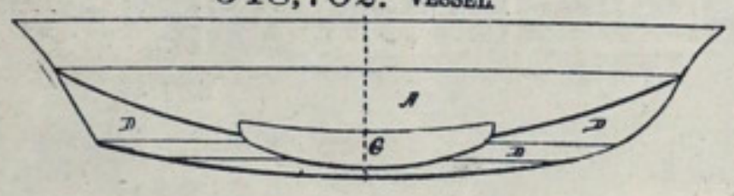
518,677. BOAT KNEE. Adoniram J. Nickerson, Argyle, Canada. Filed Sept. 26, 1893. Serial No. 486,569. (No model.)

Claim.—An improved boat timber or knee, the same consisting of the section 1 provided at its inner edge near its lower end with angular mortise 3 and below the same with the inclined cut away portion 4, the transverse bottom section 2 having its outer end upon its under side cut away as at 5 to conform to the inclined cut away portion 4 of the section 1 and upon this cut away portion 5 provided with the angular tenon 6 for engaging the mortise 3, the bolts 7 passed through the two sections, and the sheet-metal strips 8 applied to the opposite sides of the knee and overlapping the joint and bolted to the said sections.

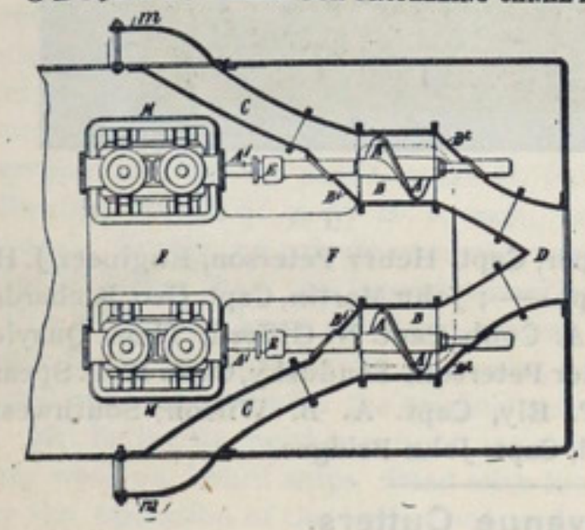
518,605. OAR-PROPELLER FOR BOATS.



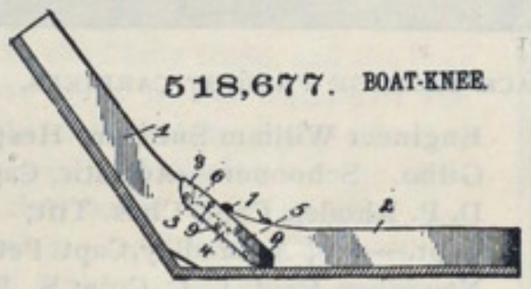
518,702. VESSEL.



518,680. MEANS FOR PROPELLING CANAL-BOATS.



518,677. BOAT-KNEE.



518,680. MEANS FOR PROPELLING CANAL BOATS. Bertie C. Scott, Bruges, Belgium. Filed Feb. 21, 1893. Serial No. 463,227. (No model.) Patented in France July 7, 1892, No. 222,856; and in Belgium July 7, 1892, No. 100,411.

Claim.—In an apparatus for the propulsion of canal boats or flats or other vessels, the combination of a propeller chamber having ingress and egress apertures, tubes connecting the said ingress and egress apertures with the shell of the vessel, valves in the said tubes whereby the ingress and egress passages may be closed, a propeller working in said chamber, a motor for driving the said propeller, and a base or foundation plate on which the said chamber, the propeller and the motor are mounted, and which is re movable therewith from the boat or vessel.

618,702. VESSEL. George W. Schermerhorn, Philadelphia, Pa. Filed Dec. 29, 1892. Serial No. 456,695. (No model.)

Claim.—A boat, the body portion of which beneath the load water line is in the form of a section of a circular spindle of coinciding curvature upon every longitudinal section, and having a ballast keel or shoe in the form of a half of a circular spindle, and a dead wood secured to and connecting said vessel and ballast shoe.

Two Well-known Lake Masters have Passed Away.

Capt. Edward Kelley, who died at his home in Cleveland, Monday, of Bright's disease, was fifty-eight years of age, and had been in active service on the lakes for nearly forty years, quitting only a year ago. He was born aboard ship and began sailing out of New Orleans at thirteen years of age. He came to the lakes in 1854 and in a few years, when still a young man, was made master and sailed the Atlantic, a side-wheel passenger steamer running between Lake Erie ports, and later the schooners Hibbard and Correspondent and propeller Cuyahoga He brought out the Pacific at Buffalo, then spent some time ashore as inspector for marine underwriters, and afterward commanded the steamer Atlantic, which was operated between Cleveland and Buffalo in connection with the New York Central Railway. He also commanded one of the first boats engaged in the Duluth-Buffalo trade and was prominent among the captains of Lake Superior passenger boats when the traffic to and from the copper region was looked to as the most important branch of lake commerce. In 1873, when the Lake Superior Transportation Company was formed in Cleveland by Oscar Townsend, Robert Blee, now mayor of Cleveland, and others, one of the boats was named for Mr. Townsend and another for Capt. Kelley, and it is a strange coincidence that Mr. Townsend died only two days later than Capt. Kelley, of the same trouble. During late years, from 1883 to 1893, Capt. Kelley commanded the steamers Wocoken, Aurora, Fedora and one of the Ann Arbor Railway Company's Lake Michigan car ferries, and he was also in the service of the government looking after the construction of vessels for the light-house board at Toledo. He was one of the organizers of the Cleveland branch of the Shipmasters' Association and was the first president of that body.

Capt. William Buffington, who died at La Grange, O., a few days ago, was also in his day very prominent among those who followed the lakes. Although he began sailing on salt water, he was in command of lake vessels away back in the fifties, the schooners Augustus Handy and Sweepstakes being among his first commands. The greater part of his life on the lakes was spent in the employ of the Winslows of Cleveland. He was in the Goshawk, R. Winslow and Wocoken of the Winslow fleet. About five years ago he quit sailing, and his friends, who were numerous on the lakes, had expected that he would be spared for a longer life in the country home to which he retired.

Naval Time Service.

Lieut. George P. Blow, U. S. N., in charge of the branch hydrographic office, Chicago, says that inquiries at the office show that the time signals are not fully understood. The United States naval time ball is dropped from the top of a flag-staff on the dome of the Masonic Temple, Chicago, by the electric transmitting clock of the branch hydrographic office in the same building. The ball is hoisted to the top of the staff, 350 feet above the level of the lake, five minutes before noon, (11.55 a. m.,) central standard time, every day (Sundays excepted); remains at mast-head five minutes, and is dropped by electricity exactly at the instant of noon. Should any accident occur by which the ball is dropped before the exact instant of noon, it will be hoisted again immediately and left up until five minutes after noon, (12.05 p.m.,) and then be slowly lowered instead of being dropped. In case the ball should fail to drop exactly at the proper instant, it will be kept up until five minutes after noon, (12.05 p. m.) and then slowly lowered as before. The exact instant that the ball starts to drop from the mast-head, is the time of noon. Lowering the ball slowly indicates that it is five minutes after noon, and that the signal current, sent by the transmitting clock, has through some accident, failed to operate the electric detaching apparatus at the instant of noon.

The Ship Masters' Association.

The Ship Masters' Association has established itself on a sound basis, which the members ought to be proud of. If the association holds its own as well as it has during a bad season, the membership will certainly increase as fast as desired when good times come again. There is an advantage in making applications for membership now, because from the present outlook there will be fewer casualities than last season and not so many assessments The association will soon issue its annual directory, the handsomest and best patronized on the lakes. Our supplement in this issue is from the frontispiece in the book. All of the faces presented are well-known and need no comment, except the three executive officers, shown in the oval spaces. Without flattery it can be said that they are responsible for the success of the organization. The association should ponder long and well before making a change, as long as they can be induced to retain their offices.

IF YOU ARE INTERESTED IN THE NEW UNITED STATES NAVY, YOU WILL WANT PICTURES OF THE NEW YORK, (SEE SUPPLEMENT IN LAST ISSUE.) PHILADELPHIA, BALTIMORE AND VESUVIUS, STEEL ENGRAVED ON HEAVY CARD BOARD 10x14 INCHES. SEND $1 FOR THE FOUR TO THE MARINE REVIEW, 516 PERRY-PAYNE BUILDING, CLEVELAND, O., AND WE WILL ADD A COLOR ETCHING OF THE STEEL STEAMER GRATWICK, FREE.

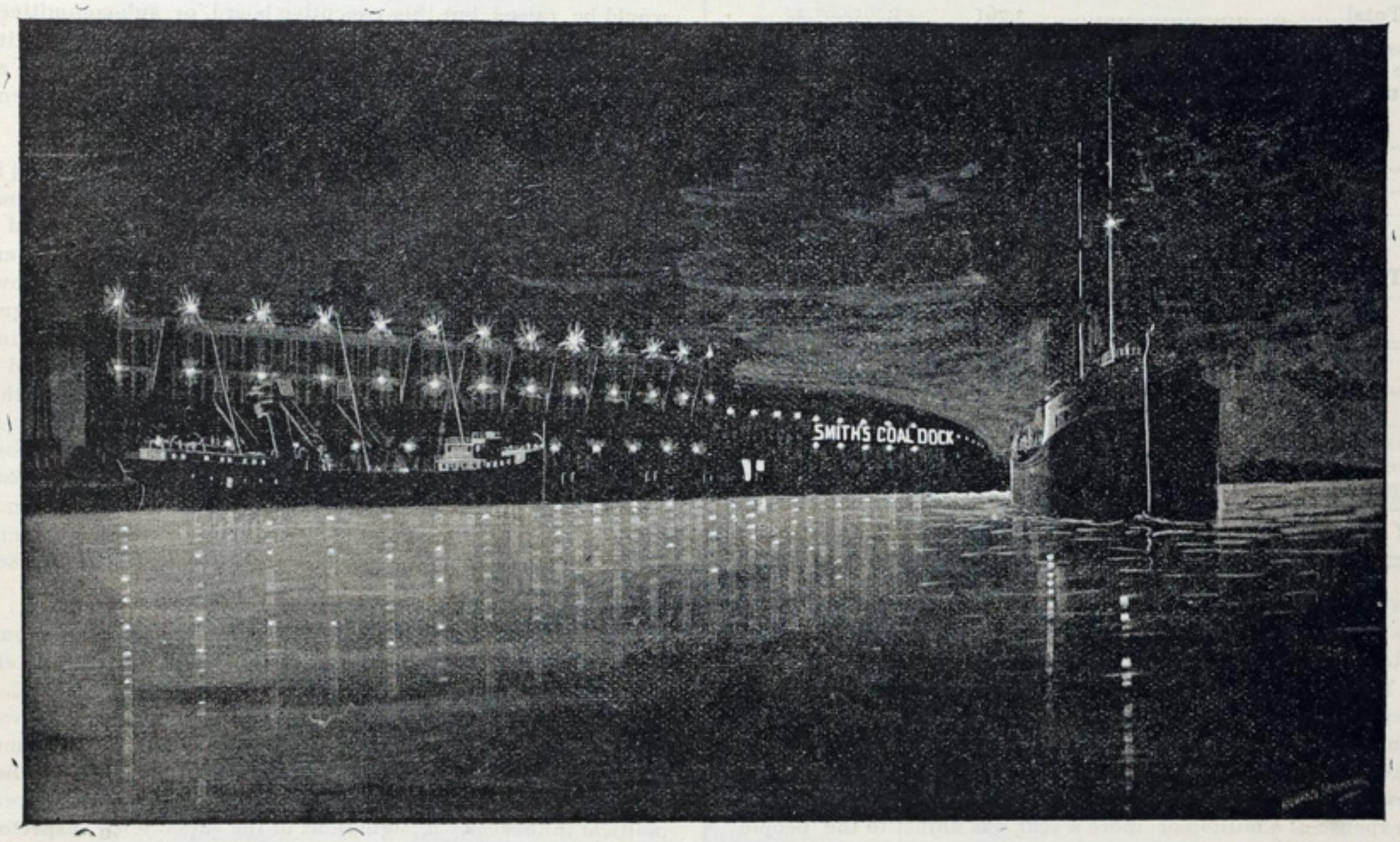
Tips From the Man on the Dock.

A well known admiralty lawyer, who was in Buffalo the other day, went to the Court Street Theatre with an equally well known insurance man and vessel owner. The card on the bill of the play was a wrestling match exhibition by Herman Roeber, the champion Graeco-Roman. Roeber challenged the world in general and any wrestler in particular to stay off his back five minutes, and offered $2 or $3 for every minute he held out after that time. In an unguarded moment this admiralty lawyer said he would like to see Dennis Gallagher tackle him. Immediately after the party were seated in their box the proctor in admiralty was addressed as Dennis Gallagher by the other members of the party. Word went through the theater that Dennis Gallagher was in the box and all eyes were riveted upon him. Finally Roeber came out and issued his challenge to the world in general, and turning to the box where the prominent admiralty lawyer and the equally prominent underwriter and likewise prominent vessel owner sat, the champion of Graeco-Roman wrestling shook his fist and defied Dennis Gallagher to come on. The crowd hooted and yelled, but the admiralty lawyer only got red in the face. Then Roeber denounced Dennis Gallagher as a blowhard and a coward, the man who fought all his contests in the newspapers and was afraid to trust himself to an honest contest. Still the admiralty lawyer sat, blushed, and tried to hide himself behind the curtain of the box. This brought forth still more violent denunciations on the part of the champion. Finding that the supposed Dennis Gallagher could not be forced to come out before all the world and put his prowess to the test, Roeber retreated from the stage, not before, however, giving his fist a final shake at the box where the marine men sat, one redder than the red, red rose, and the other two nearly dead with laughter. Many a contemptuous glance was cast at the box from the audience, and the proctor in admiralty took no further interest in the performance and wanted to go home.

I see that "Jim" Davidson has been offering to wager a few dollars on his opinion as to the future of the freight market. He says the Ashland rate on ore will reach $1 within sixty days and looks for $1.25 before the season is at an end. Some of the millionaire wooden ship builder's friends may think he has a few ships to sell, and it does seem a little inconsistent in him to make such claims, in view of his action a few days ago in taking 15 cent coal for two or three of his boats going to the head of Lake Superior for 2½ cent wheat. He might better have followed the action of the managers of the Northern Line freight steamers. They had a couple of boats chartered for 15 cent coal, but when they found that an over-charge of 25 cents a ton in the price they had to pay the shipper for fuel was almost equal to the freight, they pulled out the boats and sent them up light. But after all, there are quite a few shrewd managers in vessel business who will give Capt. Davidson credit for sound judgment in the claims he has advanced regarding ore freights. I know of half a dozen leading owners in Cleveland who have backed up similar opinions with small bets among their friends on the other side of the freight market, and unless my guess is a bad one, they will be wearing new clothes and smoking good cigars at the expense of the bears before the summer months have passed. I say this because I know that fully 3,500,000 tons of ore have been covered from Lake Superior.

But in taking a brighter view of the outlook than present or past conditions would seem to warrant, I want to include a few qualifications. The many conditions that have combined to delay an active movement of vessels will very probably compel the ore dealers, who are furnishing on low margins nearly their full share of the trade, to pay the dollar rate spoken of, but the days of profit in anything but modern vessels have passed. Permanently low rates are here to stay, and this does not mean, either, that the ship yards are to remain idle for any great length of time. The experience of lake vessels on the ocean is repeating itself, and new vessels will be built, not because additional vessels are required to do the work, but because the old ones can not be made to pay.

Along this same line of reasoning, it is certain also that before another season or two have gone by, coal shippers will be made to bear, more so than in the past, their proportion of the carrying charges that have been upheld by down freights. The class of vessels that can be operated on the lower range of freight charges will not be dependent upon coal for ballast in any season, and can not afford to put up with delays for the prices that have so long ruled in the business.



NIGHT SCENE ON THE DETROIT RIVER. (From "Facts and Advantages," published by Stanley B. Smith & Co.)

Vessels Building in Canada.

Special Correspondence to the MARINE REVIEW.

KINGSTON, Ont., May 3.—The Montreal Transportation Company has launched the new schooner Selkirk. She will go into trade between Lake Superior ports and Kingston. Her carrying capacity is 56,000 bushels. She cost about $35,000. She is 180 feet keel, 39 feet beam and 14 feet hold, a three master. The craft is strongly built, a good deal of iron being used in her construction. She will be a consort of the schooner Winnipeg towed by the propeller Bannockburn. Capt James Fleming will command her.

A handsome steamer, called the Thistle, has been launched at Oakville, Ont., for the Toronto Ferry Company. Five new vessels are in progress of construction at Collingwood. One is for the Buffalo Fish Company, 110 feet long. This vessel will be launched next month. Alfred Merrill is constructing a fine steam yacht; 100 feet long, 14½ feet beam and 6½ feet hold, for Mr. Pratt of Parry Sound. The boilers are somewhat unique, being of the pipe kind of peculiar construction, designed Mr. McEwen of the Georgian Bay Foundry and Machine Works. They are guaranteed to withstand 200 pounds pressure to the square inch. The three powerful tugs building at Collingwood for use in Georgian bay and Lake Huron are now well under way.

MARINE REVIEW.

DEVOTED TO THE LAKE MARINE AND KINDRED INTERESTS.

Published every Thursday at No. 516 Perry-Payne building, Cleveland, O Chicago office, (branch), No. 726 Phoenix building.

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The books of the United States treasury department contain the names of 3,761 vessels, of 1,261,067.22 gross tons register in the lake trade. The lakes have more steam vessels of 1,000 to 2,500 tons than the combined ownership of this class of vessels in all other sections of the country. The number of steam vessels of 1,000 to 2,500 tons on the lakes on June 30, 1893, was 318 and their aggregate gross tonnage 525,778.57; in all other parts of the country the number of this class of vessels was, on the same date, 211 and their gross tonnage 314,016.65. The classification of the entire lake fleet on June 30, 1893, was as follows:

Class.	Number.	Gross. Tonnage.
Steam vessels	1,731	828,702.29
Sailing vessels	1,205	317,789.37
Canal boats	743	76,843.57
Barges	82	37,731.99
Total	3,761	1,261,067.22

The gross registered tonnage of vessels built on the lakes during the past five years, according to the reports of the United States commissioner of navigation, is as follows:

	Number.	Net Tonnage.
1889	225	107,080.30
1890	218	108,515.00
1891	204	111,856.45
1892	169	45,168.98
1893	175	99,271.24
Total	991	471,891.97

ST. MARY'S FALLS AND SUEZ CANAL TRAFFIC.

	St. Mary's Falls Canal.			Suez Canal.		
	1893	1892.	1891.	1893.	1892.	1891.
No. vessel passages	12,008	12,580	10,191	3,341	3,559	4,207
Ton'ge, net regist'd	9,849,754	10,647,203	8,400,685	7,659,068	7,712,028	8,698,777
Days of navigation..	219	223	225	365	365	365

Entered at Cleveland Post Office as Second-class Mail Matter.

AGAIN in the present session of the dominion parliament some discussion may be expected on the subject of deepening the St. Lawrence river canals to 20 instead of 14 feet. Mr. Denison, a member of the lower house from Toronto, has introduced a bill with that end in view. In the New York legislature, also, this question of a deep-water outlet to the seaboard continues to attract attention. The New York State Farmers' League succeeded in having read before the assembly at Albany last week a series of resolutions declaring that the burthen of maintaining the Erie canal at an expense of a million or more a year was unjust to the people of the state at large, and demanding that negotiations be opened for the sale of the canal to the federal government, on the claim that all of the western states bordering on the lakes derive as much benefit from it as the state of New York. Of course, members from the canal districts in the state succeeded in having the resolutions laid aside, but the fact remains that New York state as a whole is restive even under the expense of maintaining the Erie canal, to say nothing of the several propositions to expend five to ten millions for improvements. The drift of this constant agitation in both Canada and the United States for a ship canal from the lakes to tidewater must eventually cause congress to take hold of the matter in an earnest way. Canada would have long ago begun the work of deepening its St. Lawrence canals to 20 feet but for the mistake that was made in starting out with a view to 14 feet navigation, and but for the fact also that the expense of a change to 20 feet would add many millions to an already heavy government debt.

IT WOULD seem as though the rule providing that passing signals are never to be used, excepting when vessels are actually in sight of each other, is to be forced upon the vessel masters of the lakes for the present season, at least, notwithstanding the protests of the captains and the plans of the legislative committee of the Lake Carriers' Association for another meeting, with a view to giving a full expression of opinion on the subject. We have just received, in book form, a copy of the proceedings of the last annual meeting of the board of supervising inspectors, together with the rules and regulations as revised at that meeting, and the resolutions prohibiting passing signals in fog, which have caused so much comment, are given a very prominent place among the rules. The reference to these resolutions in the proceedings simply says that they were offered by James A. Dumont, supervising inspector general, and passed upon the approval of the committee on pilot rules, of which C. H. Westcott of Detroit is chairman. There is nothing to indicate that the requirements contained in the resolutions were already a part of the steamboat laws; neither is there any intimation as to where the inspector general hunted up the new rule. But the strangest part of the proceedings is the fact that Supervising Inspector Westcott of Detroit moved the adoption of the resolutions. Certainly he could not have been unacquainted with the numerous objections to the rule that have caused the Cleveland branch of the Shipmasters' Association to protest against it as entirely impracticable. When will wonders cease in connection with the actions of this board?

NINETY per cent. of the business of the Lake Carriers' Association is conducted under the direction of the committee known as the finance committee, which is made up largely of Cleveland members who act with the president, treasurer and secretary. Secretary Keep is present at all important meetings of this committee. It is really the executive committee of the association. Practically everything in the affairs of the association, excepting legislative matters, is entrusted to this committee, and the management of the finances of the general association is only a part of its routine duty. Then why should it be called a finance committee? The name is not broad enough in its meaning and should be changed. If it were simply a matter of a name to distinguish the committee no question would be raised, but this executive board, or sub-committee of the managers, is continually acting for the entire association and in its correspondence and dealings of all kinds with people outside of the association, a name indicative of more authority than the mere management of finances should be used.

ONE long whistle or four bells (not four short whistles) is, according to the rules of steamboat inspection service, the "strong" signal to be used on all steam vessels. This rule is probably all right, and yet it is well known that on many lake steamers having no bell in the engine room, four short whistles are used instead of the long whistle provided by law. Now another rule of the service says that no passing signals shall be blown in fog. This rule will be violated also, and why? Simply because rules are made by the board in ignorance of what is wanted and without consulting the officers of steam vessels, whose knowledge of the conditions under which such rules are to be executed would result in more careful preparation of them. Inconsistencies in many of the rules of the inspectors are gradually causing a disregard for them as a whole. But they stand as law before admiralty courts, and vessel owners may learn of some of them in a very unpleasant way in case of accidents. Then why do not these vessel owners give more attention to a board that has so much to do with their interests?

ACCORDING to the latest rumor regarding the steamboat inspection service, certain Chicago congressmen are making a strong effort to have James A. Dumont removed and to give his place to De Witt C. Creiger, ex-mayor of Chicago, who is said to possess considerable practical knowledge regarding marine engineering. Any ex-mayor of Chicago must of necessity be a politician, however, and there is little comfort in the announcement to vessel owners, who hope to soon see the service removed from political influences. Resignations of the supervising inspectors of several districts have been in the hands of the secretary of the treasury for some time, but only a few changes have been made, among them E. P. Chanceller of West Virginia to succeed John Fehrenbatch at Cincinnati; James O'Neil of Illinois to succeed Frank Burnett at St. Louis, and James N. Thompson of Arkansas to succeed John Ingle at Evansville, Ind.

SECRETARY Herbert made public, a few days ago, his decision in the court martial cases of Commander O. F. Heyerman and Lieut. Chas. A. Lyman, tried as a result of the Kearsarge disaster. Both officers are sentenced to suspension for one year, with a loss of rank, and are placed on waiting orders pay. The court martial sentence of Commander Heyerman was two years with loss of rank and pay, but upon the recommendation of the court to clemency, the secretary remitted one year. He also remitted the reprimand to which Lieutenant Lyman was sentenced by the court which tried him.

SIXTY days hence, June 30, is the date fixed for the completion of the Canadian canal at Sault Ste Marie. The contractors have said nothing of late as to whether the work will be finished on time or not, but operations have progressed very rapidly. The lock is to be 900 feet by 60 feet and the depth of water 20 feet 3 inches. The first stone in the construction of the lock was laid Sept. 15, 1892.

A British chart of Lake Superior taking in the entire lake and giving detail regarding the north shore that is not to be found on United States charts, can be had from the Marine Review for $1.

Around the Lakes.

O. M. Hepburn of Wyandotte, Mich., is building a keel cabin sloop yacht 50 feet over all, for Hon. E. D. Potter of Toledo, O.

Coal shipments out of Buffalo during April amounted to 111,997 tons, against 178,040 tons during the same month last year.

Full authority has been given by the federal government for the construction of a bridge over the St. Louis river at West Duluth.

The Northern Line passenger steamer North West will probably not leave Cleveland for Buffalo until Tuesday or Wednesday of next week.

A report from Milwaukee says that several thousand shares of Chapin mining stock were sold there a few days ago at 10 cents a share. The par value is $25.

Tonnage of the steel steamer Harvey H. H. Brown, latest boat built by the Detroit Dry Dock Company, is 2,673.60 tons gross and 1,874 43 net; official number, 96,261.

The Davis Boat and Oar works at Detroit have been sold at public auction. The plant, which inventoried nearly $24,000, was bid in for Parke, Davis & Co., at $11,400.

The light-ship being built by Craig & Sons of Toledo for Nantucket shoals, Atlantic coast, has been launched and will shortly be ready to proceed toward her station.

F. P. Thrall's steamer Normandie, hailing from Green Bay, Wis., has been numbered 130,655 by the bureau of navigation. Her tonnage is 567.28 tons gross and 430.13 net.

Vessels registered in the Lake Carrier's Association on the 1st inst., aggregated 613,000 tons. This is about 6,000 tons more than was in the association at any time last season.

Representative Conn of Michigan has introduced a bill in the house providing for a fog signal at Michigan City, Ind., where the steamer Wheeler went ashore last fall and was lost.

In the transfer of the propeller Petoskey from the Seymour Transportation Company of Chicago to the Northern Michigan Transportation Company of the same place the consideration is recorded at $65,000.

At Robertson's ship yard, Grand Haven, Mich., work was begun a few days ago on a small wooden freight steamer, and at Rogers & Bird's yard, Saugatuck, a passenger boat, 110 feet long, was launched Friday.

One of the three steel tugs building at the Globe yard, Cleveland, for L. P. & J. A Smith, was launched, Saturday, and named L. P. Smith. The boat was described in our issue of April 19. George Elsey, ir., of Detroit has been selected for manager of the new towing company.

Marine Engineers' Beneficial Association, No. 4, Chicago, has opened an exchange at No. 2 South Market street, where visiting brothers will be made welcome and where vessel owners and chief engineers can obtain help promptly by telephoning Secretary Wm. Ponsonby, who is in charge.

Only two new vessels, the propeller Normandie of Green Bay and the schooner W. K. Moore of Detroit, are recorded in the May supplement to the Inland Lloyds. The supplement contains, however, the usual data regarding the large number of vessels that were not inspected in time to be recorded in the register.

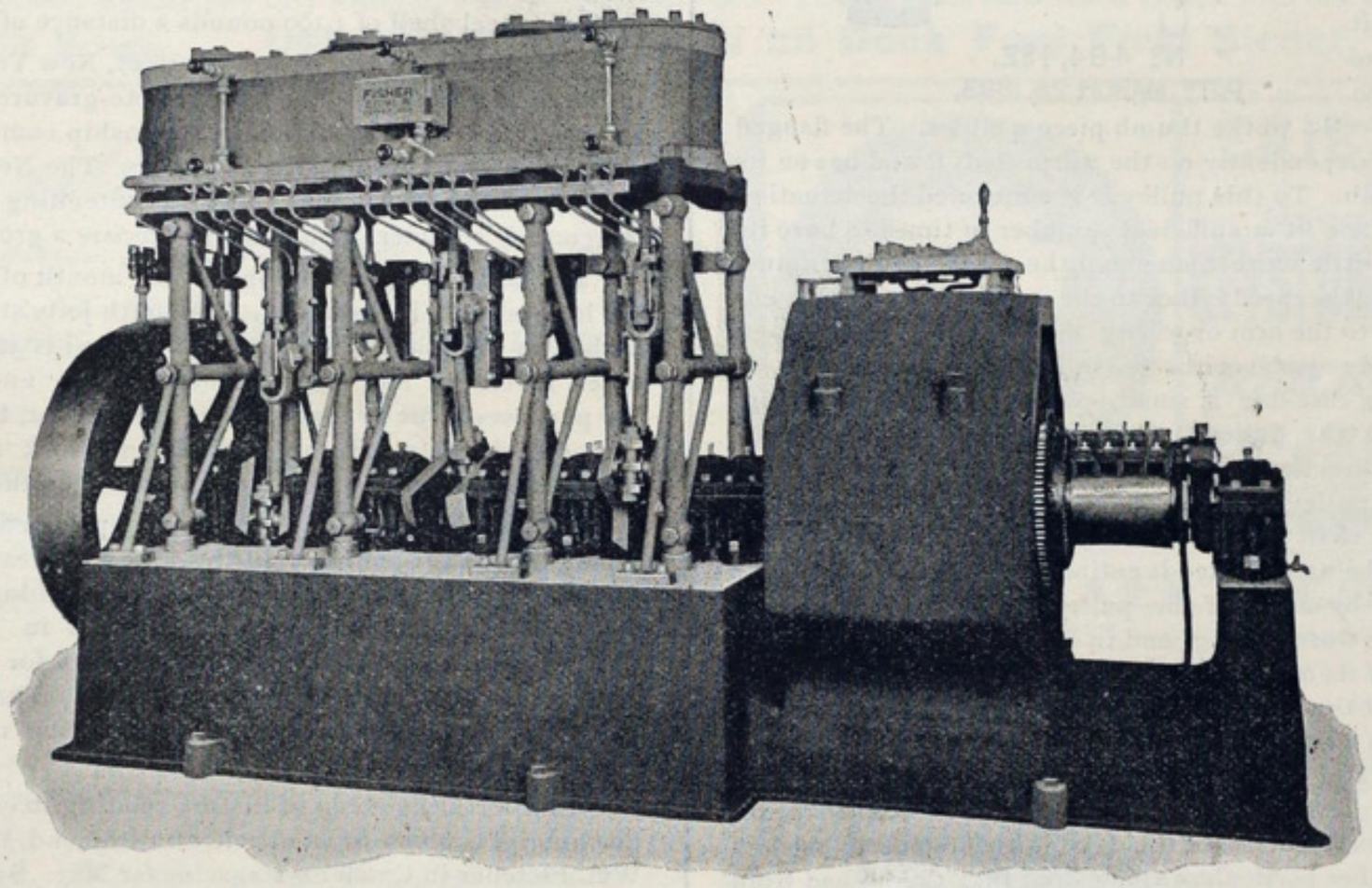
Passenger lines from Cleveland to both Detroit and Buffalo are now running steamers daily. The time of departure in the Cleveland-Buffalo service is 6:15 p. m. from Cleveland and 7:15 p. m. from Buffalo. The run between the two ports is made in about twelve hours and the fare is only $2.50.

On or about May 12, a fixed red light will be established on the outer end of the north pier, Kenosha harbor. The light will be shown from a lantern in an inclosed glazed end of a conduit extending from the pierhead light tower a distance of 100 feet. With the present pierhead light, the light will form a range for approaching the harbor.

On a draft of a few inches less than the St. Mary's Falls canal limit, the big steel steamer S. S. Curry on Saturday loaded 110,000 bushels of wheat at West Superior. She could have taken 120,000 bushels but did not get a full load. The best lake record in grain is 139,820 bushels of wheat taken by the steamer Selwyn Eddy from Detroit to Buffalo.

C. C. Merritt, one of the brothers of the Duluth family who became famous by their conection with the discovery and development of the Missabe iron range of Minnesota, died at his home in Duluth Saturday. He was treasurer of the consolidated mining companies which controlled the range, but the properties of which were recently acquired by the Rockefellers.

"When you want to get out an anchor on the lakes," said Capt. Holmes of the steel steamer Alva, a few days ago, "you want to get it out in a hurry. This is the greatest of all advantages in the stockless anchors. We have a stockless anchor in the Alva, and when we laid up last fall the mate told me he would be willing to accept a difference of $10 a month in his wages and sail on a boat with the improved anchor."



ONE OF THREE DIRECT-CONNECTED SETS OF ENGINES AND DYNAMOS FOR THE NORTHERN LINE PASSENGER STEAMER NORTH WEST.

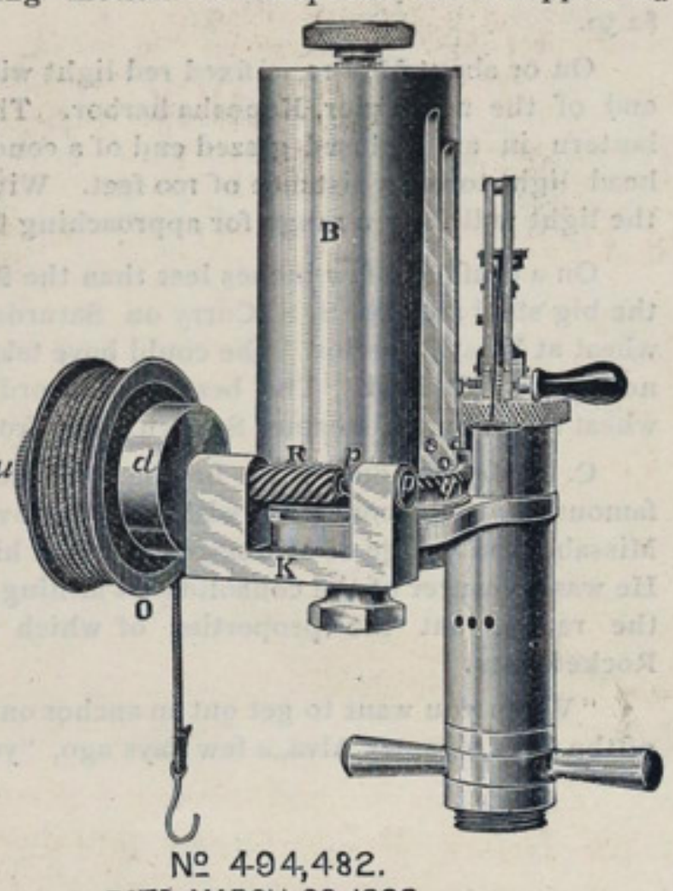
Members of Marine Engineers Beneficial Association, No.1, of Buffalo, are now furnishing business and club rooms at the corner of Main and Exchange streets, having rented two floors for that purpose. The upper floor will be furnished with billiard and card tables and mechanical and daily papers will be on file. A man has been placed in charge, who will keep a list of unemployed members, so that anyone in need of an engineer can be supplied on short notice. All members of other associations are invited to call at the rooms when in Buffalo, or have their mail sent to No. 10 Exchange street, corner of Main.

In November, 1892, the steamer F. & P. M. No. 2, which was then chartered in the package freight business between Duluth and Ogdensburg, stranded in a snow storm on a shoal off Long point, Lake Erie. A portion of the cargo had to be jettisoned and it was three days before four tugs could release the boat. Eight companies had risks on her. The railroad companies claimed $20,000. Three of the insurance companies paid their pro rata of the damage and the other five refused. Suits were commenced against these five. It was stipulated that the other four should go as the first one was decided. Judge Swan of the United States district court, Detroit, directed a jury to bring in a verdict for the defendents upon the ground that the rudder stock of the steamer was defective and also because the crew was too small and a reliable lookout was not kept during the storm in which the accident occurred. The case will be appealed.

British charts of Lake Superior cover the entire north shore. $1.

New Tabor Indicator and Reducing Motion.

The illustration herewith shows the latest improved Tabor patent steam engine indicator, with the new patent Houghtaling reducing motion. This patent reducing motion is composed of a supporting base piece g, provided with short standards that form bearings for the worm shaft R, on which the flanged pulley O is rotated, the outer bearing being a pivot p, which receives the entire thrust of the shaft R, thus reducing the friction to a minimum. It is connected direct to the indicator upon the projecting arm that supports the paper drum B and the teeth of the worm shaft R mesh directly with the teeth on the spool O. Connected to the base plate K is a spring case d, and on the extreme end of the worm shaft R is a thumb piece u. There is also secured upon this worm shaft R a collar not shown in the illustration, through which a clutch pin, secured directly to the thumb piece u slides. The flanged pulley O runs freely and independently on the worm shaft R and has on its outside a clutch-shaped hub. To this pulley O is connected the actuating cord, which should encircle it a sufficient number of times to have its length, when unwound, a little more than equal the stroke of the engine. The other end of the cord is secured either to the cross-head of the engine, to a standard bolted to the arm or to any moving part that has an exactly similar motion, and must be connected in line from the pulley O.



№ 494,482.
PAT^D MARCH 28, 1893.

Enclosed in the spring case d is a small, plain, spiral steel spring, which operates to return the pulley O back to its starting point after it has been revolved in one direction by the forward movement of the engine cross-head. As this pulley O has an independent rotating back and forth motion on the worm shaft R, the necessity of unhooking the cord when the indicator is not being operated is entirely overcome. The paper drum B is rotated forward by means of the pulley O, through its worm shaft R engaging with the worm gear g, and in the opposite direction, or backward, by the action of its own retracting spring. On the top of the paper drum B is a knurled thumb piece, made with a projecting pin on its under side to engage with a similar pin located in the top of the drum, and is to used by the operator for moving the paper drum slightly forward when taking a diagram, to prevent it from striking against its stop on the return motion. The operation of devices of this kind is understood by readers of the REVIEW, but if further particulars are desired they can be had from the Ashcroft Manufacturing Company, No. 111 Liberty street, New York, N. Y. With the indicator are included different sized pulleys for use in taking diagrams from engines having 6 inches to 4 feet stroke. The Tabor indicator has been adopted as the standard for the United States navy, and is in use on all the modern vessels of war, as well as the passenger steamer Northwest on the lakes.

Terms Connected with the Ship.

As regards terms connected with the ship, its hull, masts, decks and rigging, they are innumerable; and singular to remark that, as our military terms are derived from the Normans, the greater number of our naval ones come from the Saxon and Dutch, such as ship, boat, boom, etc. The terms larboard and starboard come from the Italian, "questa borda" and "quella borda," which by rapid delivery became starboard and larboard; but owing to the strong similarity of sound, have been changed into starboard and port, Latin "porto" to carry; the use of the terms in original form having been the cause of many accidents. Quarterdeck originated from the arrangement that the portion of the deck so called was about one-fourth of the whole space. Fore or forwardcastle received its name as being the principal part of the ship in which the fighting took place, being raised much above the level of the other part of the deck, and holding a commanding position. Poop, the raised afterpart of the ship set apart for officers, both in meaning and derivation comes from the Latin. Gangway has been handed down from the days of the ancient galley of the Phœnicians, Carthaginians, and Romans, it having been a board which ran along the whole length, serving as passage for the rowers to and from their seats. It was also utilized as a resting place for the mast and sail when not in use. The term now denotes a place of exit or entrance from or to a vessel, generally from the shore by means of a long plank or platform.—*Chamber's Journal.*

In General.

Fifty-two Cramps are on the pay roll of the Wm. Cramp & Sons Ship and Engine Building Company.

A dry dock building at Southampton, England, is to be 800 feet long, 110 feet wide, and will have 27 feet of water over the sill. It will be the largest in the world.

Another of the transatlantic steamship companies, the Austrian Lloyd, has placed orders in Germany and on the Clyde for three 5,000-ton passenger and cargo steamers.

Baltimore capitalists are said to have offered the Bath Iron Works $300,000 in cash, exemption from taxation for a period of ten years and a big tract of land as an inducement to move its ship building plant.

In 1893 vessels of the North-German Lloyd Steamship Company covered a total of 2,967,500 miles. The greatest number of miles, 833,050, is credited to vessels of the company in the Bremen-New York service.

It is expected that the launch of the St. Louis, first of the American Line ships building at Cramp's, Philadelphia, will take place sometime in July. Her sister vessel, the St. Paul, will be placed in the water in the fall. Both vessels are expected to go into service next spring.

The Peacemaker is the significant name given to the new and largest rifled gun ever made in the United States. It is intended for mounting in the battery of the battle ship Indiana, now completing at Cramp's yard, Philadelphia. The gun is of 13-inch calibre, is 40 feet long and weighs 136,500 pounds. With a normal charge of 550 pounds of powder it can project a steel shell of 1,100 pounds a distance of 14 miles.

J. H. Bowles of No. 94 Reade street, New York, has recently prepared, in the form of a large and elegant photo-gravure, a group of one hundred and twelve pictures of American steamship commanders. The engraving will undoubtedly be a matter of history. The New York papers pronounce the portraits perfect. Mr. Bowles is intending to visit the lakes during the coming summer in an effort to prepare a group of lake masters.

The jetty four miles long at the mouth of the Columbia river is not the longest jetty in the world. The south jetty at the entrance of Galveston harbor is completed to the outer bar and is 32,000 feet or more than six miles in length and there is 829 feet more uncompleted. For commercial purposes 18 or 20 feet of water throughout the entrance to Galveston harbor is adequate and the government work for which appropriations are assured is expected to give that depth by the fall of 1894.

As might have been expected the proportion of decline in iron ore production in this country during 1893 was greatest in Michigan and Wisconsin. According to government reports (geological department,) twenty-three states and two territories produced in 1893 11,506,607 long tons. This amount is smaller than that recorded for any year since 1887, and a decrease of almost 29 per cent. over 1892. The only increase of importance was in Minnesota, where the Missabe range was opened up last year.

An interesting scrap of history relating to early steamboats and their machinery, is given in an article on "Life and Works of Symington," by Wm. Fletcher in Cassier's Magazine for May. Symington's first boat made its appearance as far back as 1788, and illustrations of this and several others, brought out both before and after this date, are given, the whole forming a very striking addition to the already existing literature of the subject. Cassier's Magazine appeals to the mechanical side of a man's nature in as effective a manner as the Century and Harper's do to his literary taste, and is not behind them in the quality of its illustrations or general mechanical excellence.

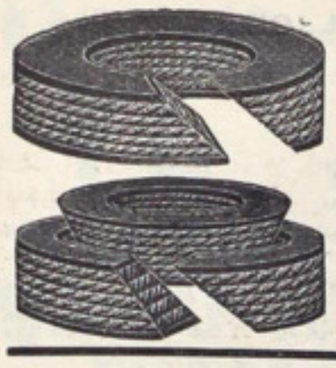
Trade Notes.

Chas. W. Whitney of New York who sells in this country Purves' patent ribbed steel boiler furnace flues, Serve's patent ribbed steel boiler tubes, Henry Wright's anvils and vises, and Baldwin's vacuum boiler tube cleaner, is about to remove from Nos. 81 and 83 Fulton street to 64, 66 and 68 Broadway.

The Wilmington Steamboat Company after using four of the patent wharf drops made by the American Ship Windlass Company of Providence, R. I., has just ordered another one for a passenger gang plank. This wharf drop gearing handles a passenger or freight gang plank or a ferry slip gang plank better than any arrangement ever devised.

The American Ship Windlass Company of Providence, R. I., began to call the attention of English ship builders and ship owners to their capstans about two years ago, and since then they have shipped to different parts of Great Britain one hundred and one capstans. The builders of a large sailing vessel, the keel of which was laid a short time ago at Glasgow, have ordered five of these capstans through the agents of the company at Liverpool.

In the tonnage of battleships launched in 1893 the United States, with 30,600 tons, leads the world. France and Russia follow with 29,927 and 12,490 tons respectively. Great Britain launched no battleships in 1893.



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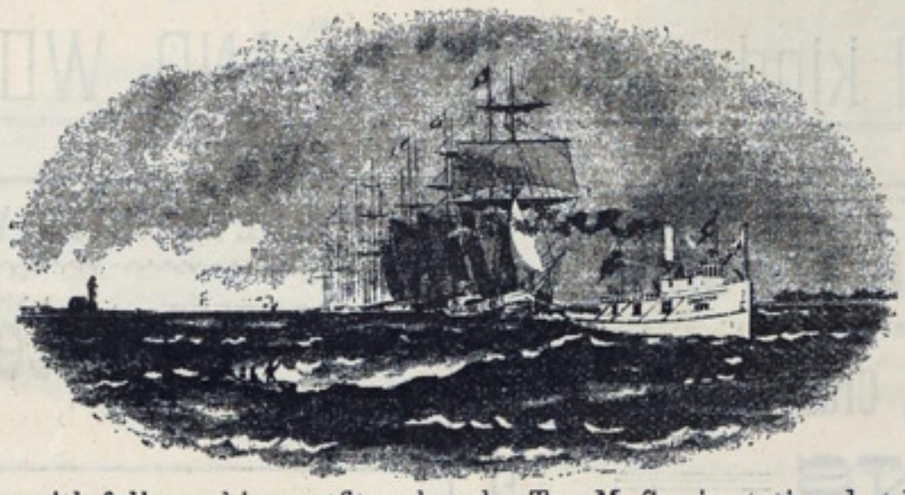

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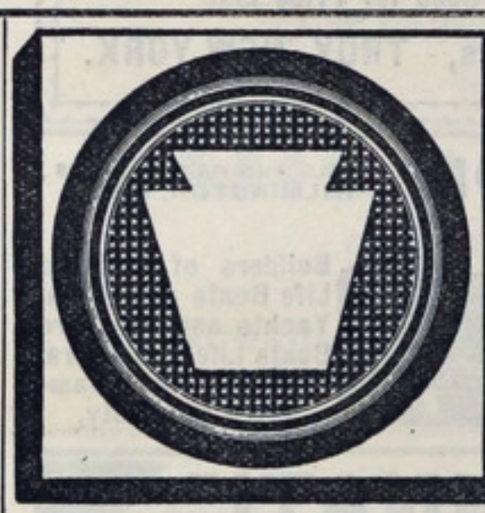

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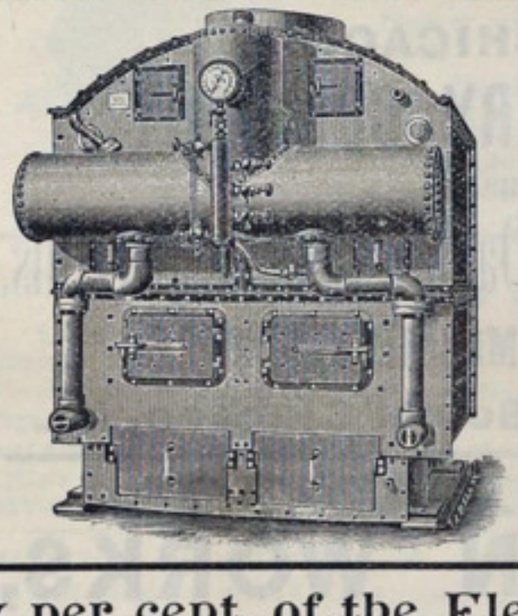

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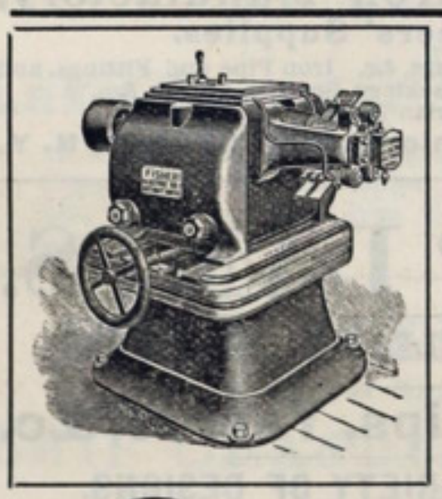

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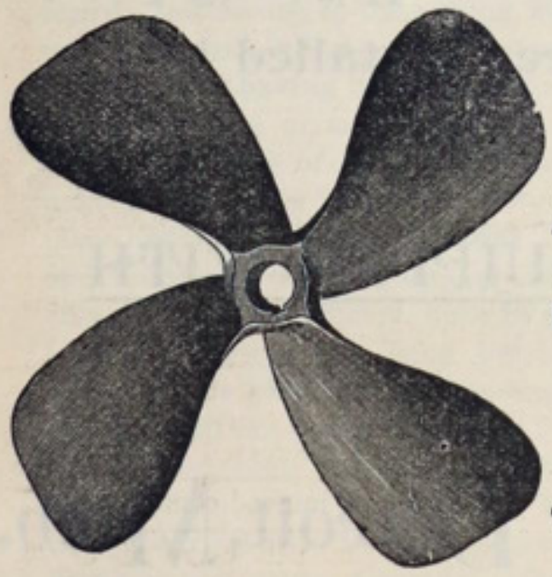

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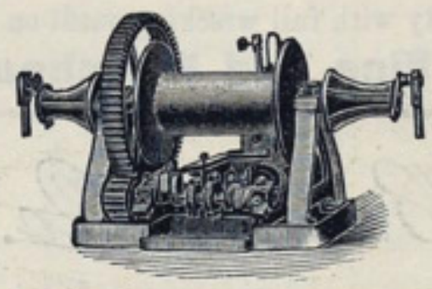

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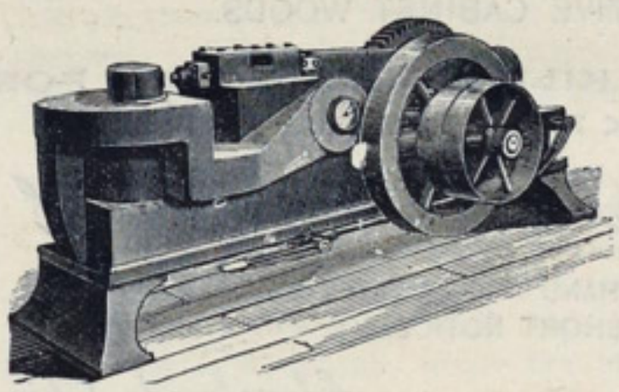

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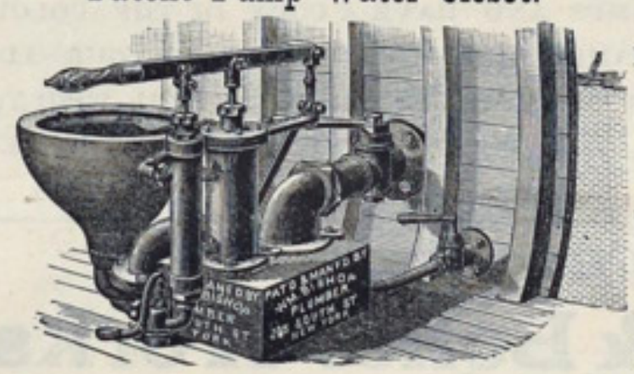

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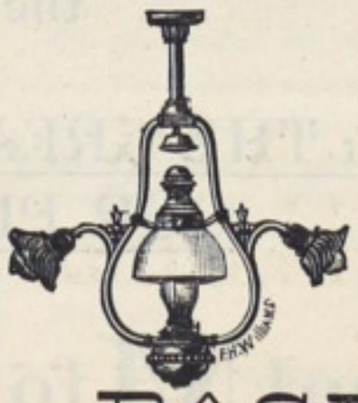

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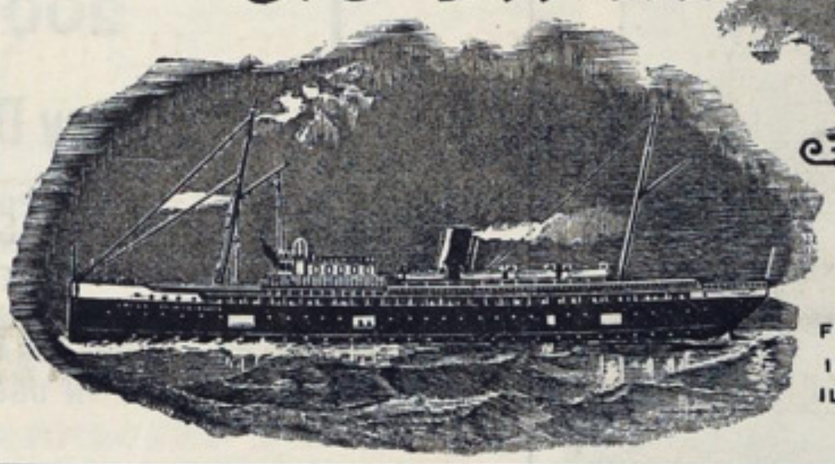

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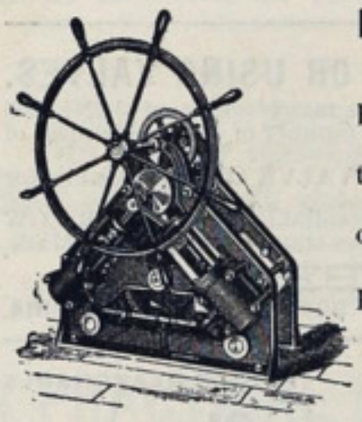

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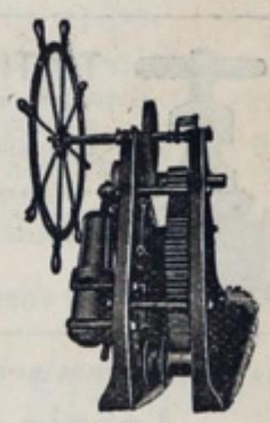

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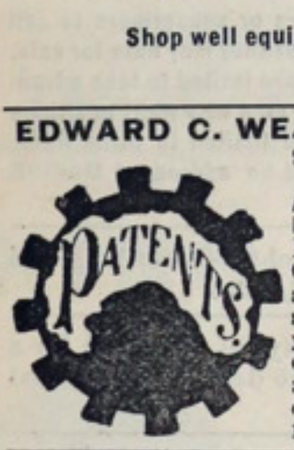

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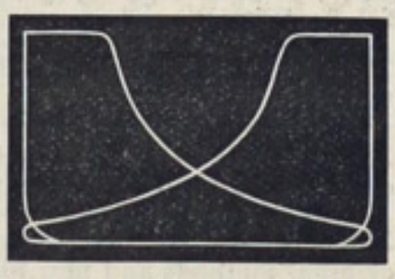

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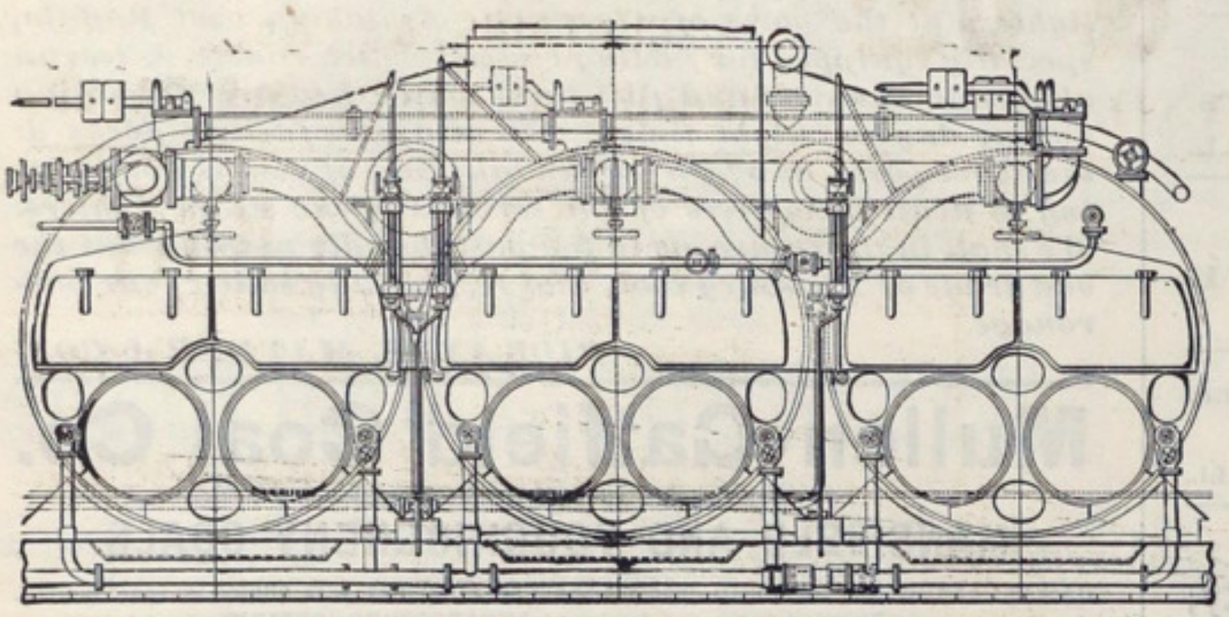

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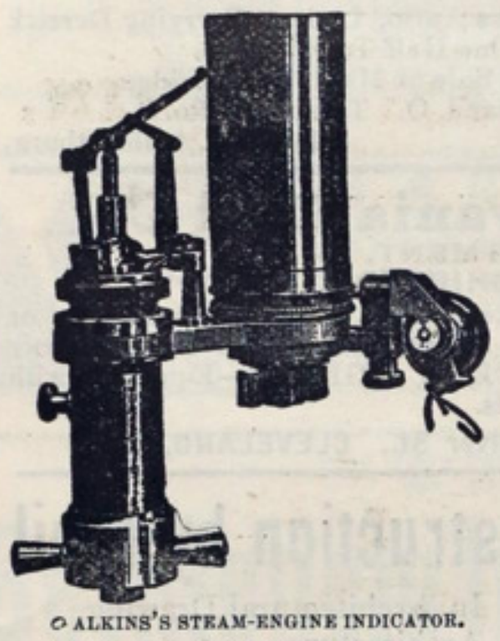

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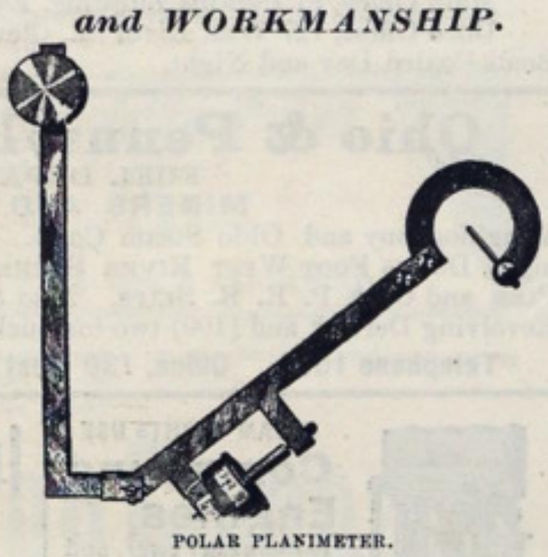

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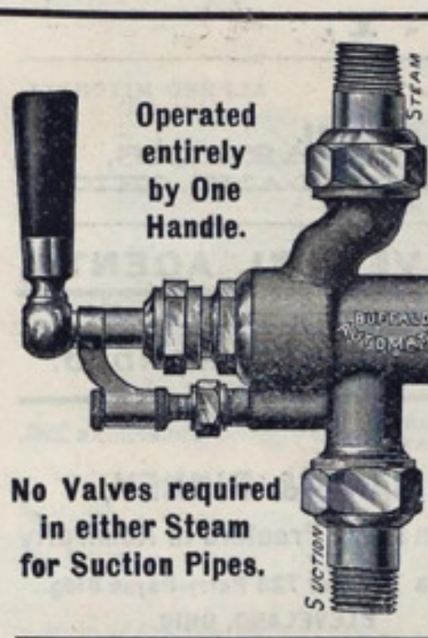

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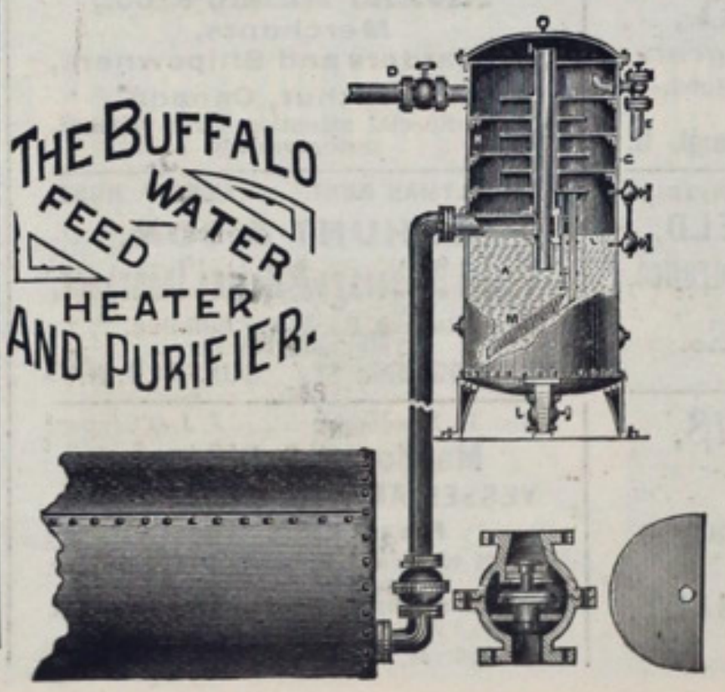

REFERENCES.

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B.—Boiler.
C.—Feed pipe to boiler.
D.—Steam pipe.
E.—Water supply pipe.
F.—Check valve.
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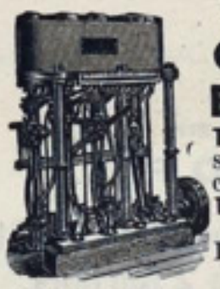

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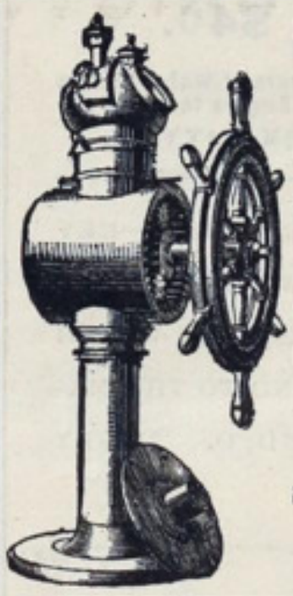

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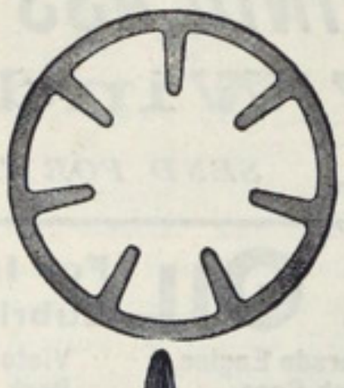

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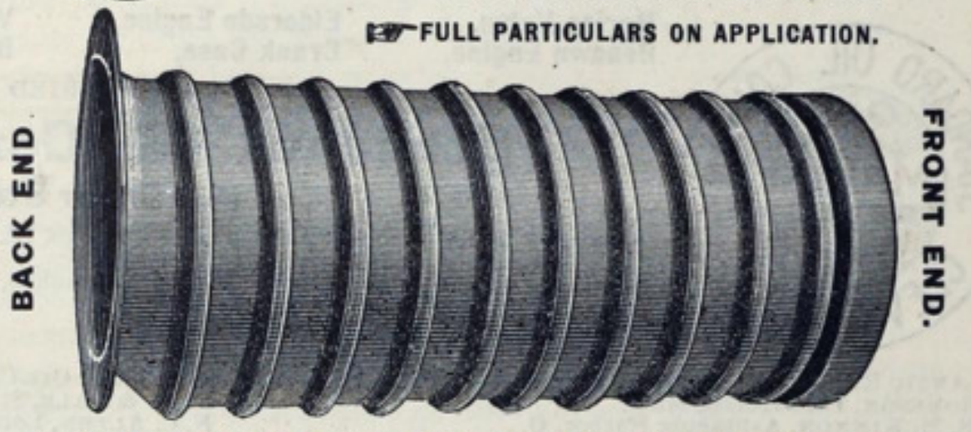

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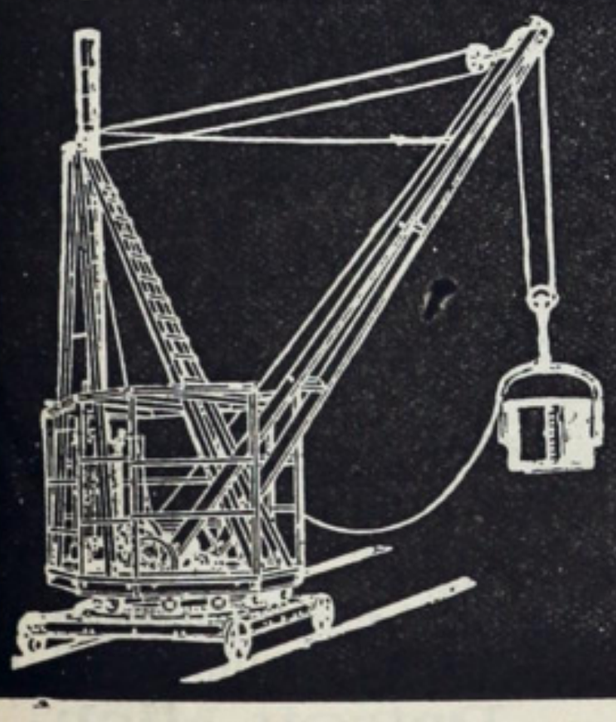

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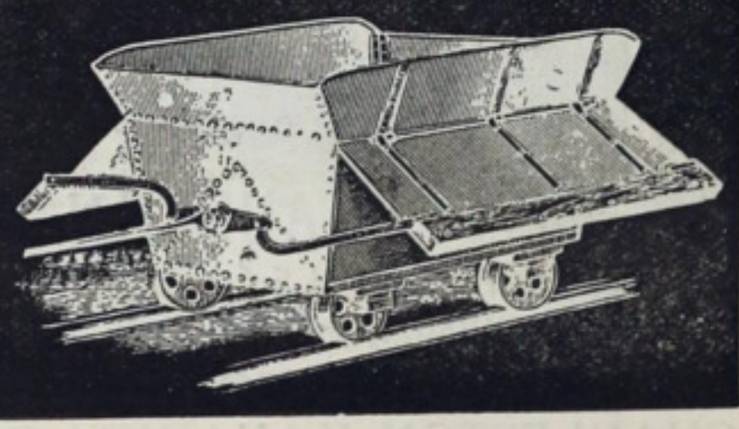

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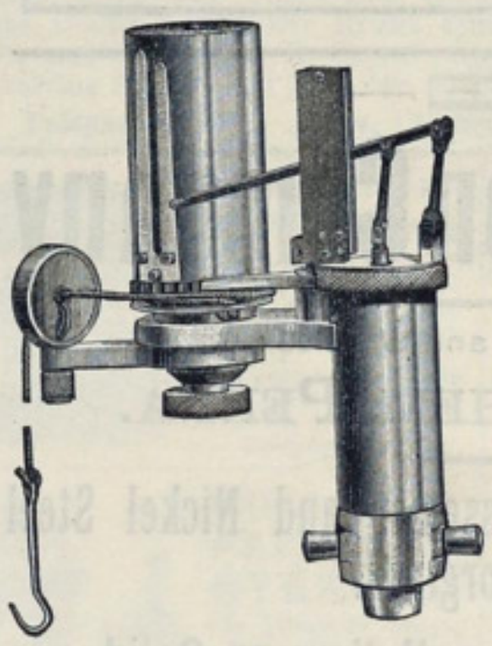

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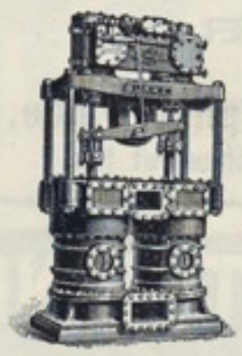

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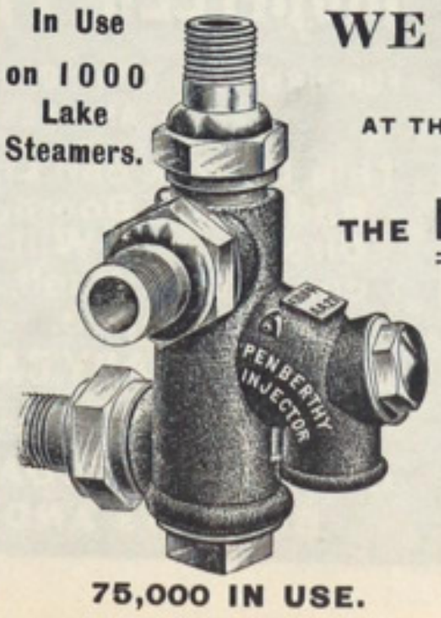

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